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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO:
10/029,645	12/21/2001	Kumar Ramaswamy	PU010322	5062

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EXAMINER	
YOUNG, JANELLE N	
ART UNIT	PAPER NUMBER
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/029,645	RAMASWAMY ET AL.	
	Examiner	Art Unit	
	Janelle N. Young	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10 and 21-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-10, & 21-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/21/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim October 10, 2006 have been considered but are moot in view of the new ground(s) of rejection.

The teachings of Langston et al. effectively provide simultaneous two-way communications between a plurality of base stations; which reads on claimed satellites. Simultaneous two-way communications that permit the service provide to simultaneously provide multiple formats of information, such as video content and interactive Internet protocol content (Col. 1, lines 45-52; Col. 4, lines 22-26 & 44-57; Col. 6, lines 3-15; and Col. 9, lines 5-13 in correspondence with Col. 3, lines 33-43 of Langston et al.). Langston et al. discloses an apparatus having a first and second signal receiving means and a first transmitting means (Abstract and Col. 1, lines 45-52 of Langston et al.). Each receiving means is connected between its own antenna and a common signal-processing device (Col. 2, line 46-Col. 3, line 32; Col. 4, lines 6-15; Col. 5, lines 16-32; and Col. 6, line 60-Col. 7, line 42 of Langston et al.). Each receiving means down converts its received signal independently of the other receiving means (Col. 3. lines 16-32; Col. 4, lines 6-15; and Col. 6, line 60-Col. 7, line 42 of Langston et al.).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "apparatus of claim 2" in line 1. There is insufficient antecedent basis for this limitation in the claim. Applicant's claim 4 is referring to a cancelled claim 2.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7-10, & 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luly et al. (US Patent 20020140617) and further in view of Langston et al. (US Patent 6272351).

As to claim 1, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, comprising:

a one or more transmitter or receiver feeds; which reads on claimed first connection to a first antenna; a second connection to a second antenna; and a third connection to a signal processor (Abstract and Page 2, Para 0014 & 0023 of Luly et al.);

a Ka-band low-noise block-down converter; which reads on claimed first signal receiving means coupled between said first connection to a first antenna and said third connection to a signal processor for receiving a first RF signal, said first signal receiving means down-converting said first RF signal for providing a Ka-band downlink signal; which reads on claimed; first down-converted signal, at said third connection to a signal processor (Page 1, Para 0011; Page 2, Para 0014 & 0023; and Page 4, Para 0035-0037 of Luly et al.);

a Ku-band low-noise block-down converter; which reads on claimed second signal receiving means, coupled between said second connection to a second antenna and said third connection to a signal processor for receiving a second RF signal, said Ku-band direct broadcast satellite television signal; which reads on claimed; second signal receiving means down-converting said second RF signal for providing a second down-converted signal at said third connection to a signal processor (Page 1, Para 0011; Page 2, Para 0014 & 0023; and Page 4, Para 0035-0037 of Luly et al.); and

a Ka-band up converter or transmitter; which reads on claimed signal transmitting means, coupled between said first and second connections to said first and second antennas and said third connection to a signal processor for receiving a third RF signal from said third connection to a signal processor, said signal transmitting means up-converting said third RF signal for selectively providing an up-converted signal at one of said first and second connections to

said first and second antennas in response to a selection signal (Page 1, Para 0011; Page 2, Para 0014 & 0023; and Page 4, Para 0035-0037 of Luly et al.).

What Luly et al. does not explicitly teach is connected between its own antenna and a common signal-processing device (Col. 2, line 46-.Col. 3, line 32; Col. 4, lines 6-15; Col. 5, lines 16-32; and Col. 6, line 60-Col. 7, line 42 of Langston et al.).

However, the teachings of Langston et al. effectively provide simultaneous two-way communications between a plurality of base stations; which reads on claimed satellites. Simultaneous two-way communications that permit the service provide to simultaneously provide multiple formats of information, such as video content and interactive Internet protocol content (Col. 1, lines 45-52; Col. 4, lines 22-26 & 44-57; Col. 6, lines 3-15; and Col. 9, lines 5-13 in correspondence with Col. 3, lines 33-43 of Langston et al.). Langston et al. discloses an apparatus having a first and second signal receiving means and a first transmitting means (Abstract and Col. 1, lines 45-52 of Langston et al.). Each receiving means is connected between its own antenna and a common signal-processing device (Col. 2, line 46-Col. 3, line 32; Col. 4, lines 6-15; Col. 5, lines 16-32; and Col. 6, line 60-Col. 7, line 42 of Langston et al.). Each receiving means down converts its received signal independently of the other receiving means (Col. 3. lines 16-32; Col. 4, lines 6-15; and Col. 6, line 60-Col. 7, line 42 of Langston et al.).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate a connection between its own antenna and a common signal-processing device (Col. 1, lines 45-52; Col. 4, lines 22-26 & 44-57; Col.

6, lines 3-15; and Col. 9, lines 5-13 of Langston et al.), as taught by Langston et al., in the two-way communication multi-band reflector antenna of Luly et al., because Ku-band signals, Ka-band signals, control signals, and RF signals are present at the antennas simultaneously and/or wherein said a is being present at said third signal point simultaneously with said first down-converted signal, said second down-converted signal and said third RF signal (Page 2, Para 0021-0022 of Luly et al.).

The motivation of this combination would allow a more efficient spectrum usage in the directional transmission of really signals. The communication network allows connection between its own antenna and signal-processing device (Col. 5, lines 32-40 of Langston et al.). In addition, Luly et al. already teaches data returning from the Internet to the provider's data center in response to the subscriber's input, from where it is transmitted up to the data satellite which in turn transmits the data to the subscriber's geographical location where the satellite transmission is received by the subscriber's ground terminal antenna (Page 1, Para 0007 of Luly et al.).

As to claims 3-4, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, further comprising: coaxial cables and modem; which reads on claimed control means, for generating said channel selection and other signal processing; which reads on claimed selection signal, in delivering a 30 GHz uplink or transmit signal to a Ka-band feed; which reads on claimed response to a control signal from an indoor DBS receiver; which reads on claimed indoor unit (Fig. 6:**52**; Page 1, Para 0006; Page 3, Para 0033; and Page 5, Para 0043-0044 of Luly et al.).

As to claim 5, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, wherein said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third connection to a signal processor simultaneously and/or wherein said a control signal is being present at said third connection to a signal processor simultaneously with said first down-converted signal, said second down-converted signal and said third RF signal (Page 2, Para 0021-0022 of Luly et al.).

As to claims 7-8, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, wherein said first and/or second RF signal includes one of a Ku-band direct broadcast satellite television service; which reads on claimed television signal, and a Ka-band two-way broadband internet access; which reads on claimed internet protocol signal (Abstract; Page 1, Para 0007-0008 & 0011; and Page 2, Para 0017-0018 & 0021 of Luly et al.).

As to claim 9, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, wherein said first and second RF signals are signals transmitted from respective satellites (Abstract; Page 1, Para 0004-0007 & 0011; and Page 2, Para 0017, 0019, & 0021 of Luly et al.).

As to claim 10, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, wherein said first and second RF signals are transmitted from respective ground terminal and/or geostationary antenna; which reads

on claimed terrestrial signal distribution source (Abstract; Page 1, Para 0002, 0007, & 0011; and Page 3, Para 0032-0033 of Luly et al.).

Regarding claim 21, see explanation as set forth regarding claim 1 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

As to claim 22, Luly et al. teaches a multi-band reflector antenna (fig. 1:**10** of Luly et al.); which reads on claimed apparatus, wherein said first down-converted signal, said second down-converted signal and said third RF signal are being present at said signal point simultaneously.

Regarding claim 23, see explanation as set forth regarding claim 3 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 24, see explanation as set forth regarding claim 4 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 25, see explanation as set forth regarding claim 5 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 27, see explanation as set forth regarding claim 7 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 28, see explanation as set forth regarding claim 8 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 29, see explanation as set forth regarding claim 9 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Regarding claim 30, see explanation as set forth regarding claim 10 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

4. Claims 6 & 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Luly et al. (US Patent 20020140617) and Langston et al. (US Patent 6272351), and further in view of Krasner (US Patent 5825327).

As to claim 6, Luly et al. teaches a two-way or bi-directional communication multi-band reflector antenna (fig. 1:**10**); which reads on claimed apparatus, wherein said first down-converted signal, said second down-converted signal, and said third RF signal are present at said third signal point simultaneously and/or wherein said a control signal is being present at said third signal point simultaneously with said first down-converted

signal, said second down-converted signal and said third RF signal (Page 2, Para 0021-0022 of Luly et al.).

What Luly et al. does not explicitly teach is a GPS signal being present simultaneously with a control signal (Col. 2, lines 6-37 and Col. 7, line 59-Col. 8, line 15 of Krasner).

However Krasner teaches a multi-band reflector antenna; which reads on claimed apparatus, wherein a GPS signal is being present simultaneously at said third signal point with control signal, said first down-converted signal, said second down-converted signal and said third RF signal (Col. 4, line 38-Col. 5, line 28 in correspondence to Col. 26, lines 47-53 of Krasner).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate a GPS receiver having multiple GPS antennas transmitting and receiving signals simultaneously (Col. 10, line 14-Col. 11, line 4 of Krasner), as taught by Krasner, in the two-way communication multi-band reflector antenna of Luly et al., because Ku-band signals, Ka-band signals, control signals, and RF signals are present at the antennas simultaneously and/or wherein said a is being present at said third signal point simultaneously with said first down-converted signal, said second down-converted signal and said third RF signal (Page 2, Para 0021-0022 of Luly et al.).

The motivation of this combination would be in the areas of personal and property tracking. The communication link allows a GPS receiver located on a mobile person or object to transmit its accurately determined position to remote locations,

which monitor this activity. Applications of the technology include security, truck fleet tracking, emergency response, inventory control, etc. Moreover, these systems use conventional serial correlating approaches to acquiring and tracking GPS satellite signals (Col. 1, line 55-Col. 2, line 2 of Krasner). In addition, Luly et al. already teaches data returning from the Internet to the provider's data center in response to the subscriber's input, from where it is transmitted up to the data satellite which in turn transmits the data to the subscriber's geographical location where the satellite transmission is received by the subscriber's ground terminal antenna (Page 1, Para 0007 of Luly et al.). **Note:** The two-way or bi-directional communication multi-band reflector antennas are collated along the geostationary arc with the satellite constellation consisting of the satellites placed in know geographical positions (Page 5, Table 1 of Luly et al.). Therefore, when data is sent from a particular subscriber to the data center, the location of the antenna can be determined and tracked for any emergencies and/or inventory control (Abstract of Krasner).

Regarding claim 26, see explanation as set forth regarding claim 6 (apparatus claim) because the claimed method for two-way or bi-directional communication would perform the method steps.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle N. Young whose telephone number is (571) 272-2836. The examiner can normally be reached on Monday through Friday: 8:30 am through 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12-28-06

JNY
December 26, 2006

LANA LE
PRIMARY EXAMINER